DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002456
Date Inspected: 14-Apr-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1400
OSM Departure Time: 2330
Location: Shanghai, China

CWI Name: Hu Wei Qing/Sha Zhi

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG/Tower

Summary of Items Observed:

The Caltrans Quality Assurance (QA) Inspector Roscoe Dixon was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girder (OBG) and Tower.

New OBG Assembly Shop

The QA Inspector randomly observed ZPMC Welding Operator Wang Lanying ID 045265, utilizing the Submerged Arc Welding (SAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-B-L2C-S-1 to complete the filler and cap passes for the complete joint penetration (CJP) welding of a floor beam plate material identified as segments SP74B / SP62B weld joint number SEG019A-026.

The QA Inspector observed that ZPMC CWI, Zhao Chen Sun and various CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures during the welding.

The QA Inspector also randomly verified the welding machine amperes and volts utilizing a Fluke Meter.

The QA Inspector visually verified a single electrode was being utilized for the filler passes. The filler metal being used was JW-3 with a diameter of 4.8 millimeters the welding in progress was completed during the QA verification and appeared to conform with the welding procedure specifications (WPS) and the contract requirements.

The QA Inspector observed ZPMC qualified welders Mr. Lv Feng Bo ID 045167 utilizing Flux Cored Arc

Welding (FCAW) process with ZPMC Weld Procedure Specification (WPS) WPS B-T-2231-B-U2-F to weld the root pass for the complete joint penetration (CJP) butt joint to join the Seismic Performance Critical Member (SPCM) plate material identified as SP20A to SP12A.

During the welding of this joint the QA Inspector verified the welding machine amperes at 314 amperes and 30 volts utilizing a Fluke Meter. The QA Inspector also visually verified. The filler metal being used was brand name Supercored 71H with a diameter of 1.4 millimeters, and was a new box of wire which was checked out at 1800 by the CWI on this date. The root pass was completed during the QA verification.

The QA Inspector observed that during the shift ZPMC CWI, Zhao Chen Sun and various CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures during the shift which was checked out

The welding being performed appeared to comply with the above listed WPS and conform to the contract requirements.

Bay 4

The QA Inspector observed welding operator Jian Jingteng ID 046830 utilizing the Submerged Arc Welding (SAW Process with ZPMC WPS) WPS-B-T-3221-BU3-C-S-1 in the 1G (Groove) position to weld fill passes for tower diaphragm 33M bottom sub assembly P284 (N) + SA 276 (N). Weld Joint NSD1-SA276-1A

The QA Inspector visually verified a single electrode was being utilized for the fill weld passes, and the filler metal was LA-85 with a diameter of 4.8 millimeters.

The Flux was verified as MIL800-HPN1, the base material listed on the (WPS) as HPS 485WT2 Shear Link grade 485. The QA Inspector observed and noted that during the welding operation the ZPMC welding operator would before welding over previous deposited weld pass utilized the proper cleaning method to remove slag prior to resuming the welding operation.

The QA Inspector observed that during the shift ZPMC CWI, Zhao Chen Sun and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay # 4.

After the completion of approximately 70 % of the weld joint the welding was stopped, and the ABF Inspector Li Hanjie informed the QA Inspector that the diaphragm plate was to be turned over and welding would be performed on the other side in order to limit welding distortion to the plate material. The work being performed was in progress generally appeared to conform to contract specifications.

Bay 3

The QA Inspector observed ZPMC qualified welder Mr. Wei Dashui ID 051246 utilizing Flux Cored Arc Welding (FCAW) process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2132-3 to weld edge plate stiffeners EP013-001 to plate material.

WELDING INSPECTION REPORT

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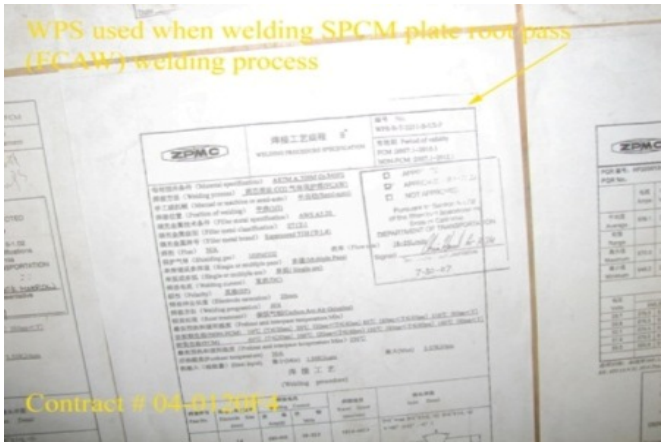
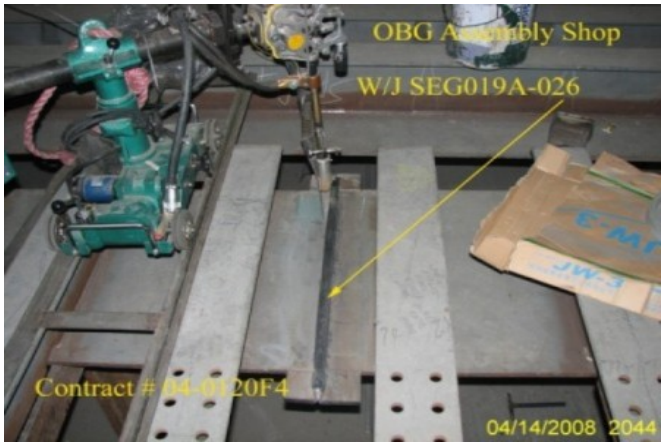
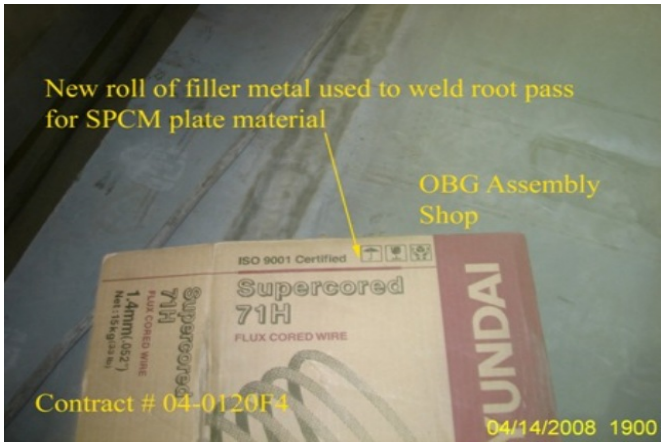
During the welding of edge plate weld joint number EP013-001-006 and EP013-001-007 the QA Inspector verified the welding machine amperes and volts during a random verification utilizing a Fluke Meter. The work being performed was in progress generally appeared to conform to contract specifications.







Summary of Conversations:

As noted within the report shown above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Dixon,Roscoe	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer